```
Set     Items   Description
S1   17564996   S DOCUMENT? OR OBJECT? OR DATASET? OR DATAOBJECT? OR HIT OR HITS OR
RESULT? OR RETRIEV?
S2    6616060   S OUTCOME? OR REPLY? OR REPLIE? OR REPORT? OR READING? OR FEEDBACK? OR
(FEED??? OR FED)()BACK?
S3    3719754   S SOFTWARE()OBJECT? OR DATABASE? OR DOMAIN? OR COLUMN? OR TABLE? OR
DATAOBJECT? OR DATASTRUCTUR? OR DATAVALUE?
S4     165810   S DATA()(ENTIT? OR STRUCTUR?) OR OBJECTMODEL? OR OBJECT()MODEL? OR
DATARECORD? OR DATA()RECORD?
S5       5181   S DATACOMMAND? OR DATAORDER? OR DATAUNIT? OR DATA()UNIT? OR DATA()MESSAG?
OR DATA?()INSTRUCT
S6      45884   S DATABYTE? OR DATABLOCK? OR DATA()(BLOCK? OR REQUEST? OR INPUT? OR TYPE?
OR MEMBER? OR VALUE?) OR DATATYPE?
S7    2145889   S RANK? OR SORT??? OR PRIORIT? OR HIERARCH? OR HIERAT? OR TOTEM()POLE? OR
PECKING()ORDER? OR TAXONOM? OR FILTER?
S8     478409   S QUERY? OR ASK OR ASKS OR ASKED OR ASKING OR INQUIR? OR INTERROGAT? OR
DATAMIN? OR DATA()(MINE? OR MINING)
S9   10515378   S SEARCH? OR FIND? OR LOCAT? OR RESEARCH? OR FETCH? OR LOOK?()UP OR
LOOKUP? OR SELECT? OR CULL? OR FERRET?
S10   5984081   S S1:S6 AND S7:S9
S11    985660   S S1:S6 AND S7
S12    459050   S RULE? OR PROTOCOL? OR PARAMETER? OR TRAIT? OR CHARACTERISTIC? OR MODEL?
OR STANDARD?
S13     72675   S BENCHMARK? OR YARDSTICK? OR PROCEDUR?
S14     66558   S GUIDELINE? OR GUIDE()LINE? OR LAW OR LAWS OR CRITERIA? OR CRITERION?
S15    164264   S POLICY? OR POLICIES OR PREFEREN? OR PROPERT? OR REGULATION? OR
PRINCIPLE?
S16     80353   S WEIGHT? OR PROBABILIT? OR EIGENWEIGHT?
S17    218632   S RELATED? OR KINSHIP? OR CORRELAT? OR SIMILAR? OR LIKENESS? OR ALIKE? OR
CONGRUENT? OR IDENTICAL?
S18    159025   S CLOSENESS? OR RELEVAN? OR SIGNIFIC? OR FREQUEN?(2N)DISTRIBUT? OR
NEARNESS? OR PROXIMIT?
S19    109998   S DEPENDEN? OR GERMANE? OR PERTINEN? OR PREPONDERAN? OR RELATIONSHIP?
S20     70451   S GROUPING? OR INFEREN? OR CORRESPOND?
S21    127257   S COMBINE? OR COMBINING? OR COMBINATION? OR BLEND? OR CONSOLIDAT? OR
SYNTHESIZ? OR SYNTHESIS?
S22     89864   S INTEGRAT? OR COMMINGL? OR INTERMING? OR INTERMIX? OR COMMIX? OR
AGGREGAT?
S23    267601   S NUMBER? OR TOTAL? OR COUNT? OR HOW()MANY OR QUANTIT? OR SUMMAR? OR
DATACOUNT?
S24    119522   S SUM? ? OR ACCUMULAT? OR CUMULAT? OR (ADD? ? OR ADDED OR ADDING)()UP OR
CALCULAT? OR COMPUTE OR COMPUTED
S25    110340   S COMPUTING OR SUMMAT? OR TALLY? OR ACCOUNTING? OR COMPUTATION?
S26     40925   S AMASS? OR TOTTED OR COMPIL? OR AMOUNT? OR TALLY?
S27    136387   S SCORE? OR SCORING? OR GRADE? OR GRADING OR RATE? OR RATING?
S28    201271   S PREDICT? OR ANTICIPAT? OR FORETELL? OR FORETOLD? OR FUTURE? OR RECOGNI?
OR INFER? OR DEDUCE? OR DEDUCTION? OR DEDUCING?
S29     37937   S NEURAL()(NET OR NETWORK?) OR (MACHINE? OR COMPUTER?)()LEARN? OR
ARTIFICIAL?()INTELLIGENC? OR FUZZY()(LOGIC? OR INFERENC? OR THEOR?)
S30    126577   S FORESHADOW? OR PRESAG? OR FORESEE? OR FORESAW? OR PROGNOSTIC? OR
DIVINAT? OR DIVINING? OR ESTIMAT? OR DISAMBIGUAT?
S31    100293   S AUGUR? OR FORECAST? OR PORTEND? OR PROPHES? OR GUESS? OR ASSUM? OR
PRESUM? OR CONJECTUR? OR INTUIT? OR DIAGNOS?
S32    118143   S PREVIOUS? OR BEFORE? OR PAST OR PREDAT? OR ANTEDAT? OR PRECEDING? OR
PRECEDE? OR PREDECESS? OR SUCCESSOR? OR ANCEST?
S33    108183   S FORMER OR ERSTWHILE? OR EARLIER? OR ANTECED? OR ORIGINAL? OR INITIAL? OR
BETA? ? OR PREEXTANT? OR PREEXIST?
S34     69757   S PRESELECT? OR PREDETERMIN? OR PRECHOOS? OR PREDAT? OR PRELIMINAR? OR
```

```
BEFOREHAND? OR PREDEFIN? OR PRIOR OR ADVANC? OR PREDESIGNAT?
S35       11770    S S11 AND S8:S9 AND S12:S15 AND S16:S20 AND S21:S26 AND S27 AND (S28:S31
OR S32:S34)
S36        3974    S S35 AND S28:S31 AND S32:S34
S37       11770    S S35:S36
S38        3198    S S37 AND (S7 AND S27)(7N)S8:S9
S39         776    S S38 AND S21:S26(5N)S16:S20
S40        1029    S S38 AND S36
S41         247    S S39 AND S40
S42        3198    S S38:S40
S43         315    S S42 AND S32:S34(7N)S16:S20
S44          58    S S41 AND S43
S45         504    S S41 OR S43
S46         262    S S45 AND S12:S15(7N)(S7 OR S27)
S47         140    S S45 AND S8:S9(5N)S1:S6
S48          68    S S46 AND S47
S49         334    S S46:S47
S50          70    S S49 AND S21:S26(5N)S16:S20(10N)(S27 OR S7)(5N)S8:S9 AND S12:S15(5N)(S7
OR S27)
S51         154    S S44 OR S48 OR S50
S52         137    S S51 AND PY=1970:2003
S53         137    S S51 NOT PY=2004:2006
S54         137    S S52:S53
S55         119    RD   (unique items)
 ; show files
```

[File 2] **INSPEC** 1898-2006/Aug W1

[File 6] **NTIS** 1964-2006/Aug W1

[File 8] **Ei Compendex(R)** 1970-2006/Aug W1

[File 34] **SciSearch(R) Cited Ref Sci** 1990-2006/Aug W1

[File 35] **Dissertation Abs Online** 1861-2006/Jun

[File 56] **Computer and Information Systems Abstracts** 1966-2006/Jul

[File 60] **ANTE: Abstracts in New Tech & Engineer** 1966-2006/Jul

[File 65] **Inside Conferences** 1993-2006/Aug 14

[File 94] **JICST-EPlus** 1985-2006/May W1

[File 99] **Wilson Appl. Sci & Tech Abs** 1983-2006/Jul

[File 111] **TGG Natl.Newspaper Index(SM)** 1979-2006/Aug 02

[File 144] **Pascal** 1973-2006/Jul W4

[File 239] **Mathsci** 1940-2006/Oct

[File 256] **TecInfoSource** 82-2006/Nov

Set	Items	Description
S1	2664950	DOCUMENT? OR OBJECT? OR DATASET? OR DATAOBJECT? OR HIT OR - HITS OR RESULT? OR RETRIEV?
S2	587832	OUTCOME? OR REPLY? OR REPLIE? OR REPORT? OR READING? OR FE- EDBACK? OR (FEED??? OR FED)()BACK?
S3	955819	SOFTWARE()OBJECT? OR DATABASE? OR DOMAIN? OR COLUMN? OR TA- BLE? OR DATAOBJECT? OR DATASTRUCTUR? OR DATAVALUE?
S4	60545	DATA()(ENTIT? OR STRUCTUR?) OR OBJECTMODEL? OR OBJECT()MOD- EL? OR DATARECORD? OR DATA()RECORD?
S5	8204	DATACOMMAND? OR DATAORDER? OR DATAUNIT? OR DATA()UNIT? OR - DATA()MESSAG? OR DATA?()INSTRUCT
S6	95097	DATABYTE? OR DATABLOCK? OR DATA()(BLOCK? OR REQUEST? OR IN- PUT? OR TYPE? OR MEMBER? OR VALUE?) OR DATATYPE?
S7	343013	RANK? OR SORT??? OR PRIORIT? OR HIERARCH? OR HIERAT? OR TO- TEM()POLE? OR PECKING()ORDER? OR TAXONOM?
S8	119666	S1:S6 AND S7
S9	55506	QUERY? OR ASK OR ASKS OR ASKED OR ASKING OR INQUIR? OR INT- ERROGAT? OR DATAMIN? OR DATA()(MINE? OR MINING)
S10	3422301	SEARCH? OR FIND? OR LOCAT? OR RESEARCH? OR FETCH? OR LOOK?- ()UP OR LOOKUP? OR SELECT? OR CULL? OR FERRET?
S11	948516	S1:S6 AND S9:S10
S12	1016783	S8 OR S11
S13	207842	RULE? OR PROTOCOL? OR PARAMETER? OR TRAIT? OR CHARACTERIST- IC? OR MODEL? OR STANDARD?
S14	33181	BENCHMARK? OR YARDSTICK? OR PROCEDUR?
S15	12910	GUIDELINE? OR GUIDE()LINE? OR LAW OR LAWS OR CRITERIA? OR - CRITERION?
S16	88098	POLICY? OR POLICIES OR PREFEREN? OR PROPERT? OR REGULATION? OR PRINCIPLE?
S17	73002	WEIGHT? OR PROBABILIT? OR EIGENWEIGHT?
S18	132792	RELATED? OR KINSHIP? OR CORRELAT? OR SIMILAR? OR LIKENESS? OR ALIKE? OR CONGRUENT? OR IDENTICAL?
S19	58673	CLOSENESS? OR RELEVAN? OR SIGNIFIC? OR FREQUEN?(2N)DISTRIB- UT? OR NEARNESS? OR PROXIMIT?
S20	50099	DEPENDEN? OR GERMANE? OR PERTINEN? OR PREPONDERAN? OR RELA- TIONSHIP?
S21	220534	GROUPING? OR INFEREN? OR CORRESPOND?
S22	137122	COMBINE? OR COMBINING? OR COMBINATION? OR BLEND? OR CONSOL- IDAT? OR SYNTHESIZ? OR SYNTHESIS?
S23	51789	INTEGRAT? OR COMMINGL? OR INTERMING? OR INTERMIX? OR COMMI- X?
S24	284767	NUMBER? OR TOTAL? OR COUNT? OR HOW()MANY OR QUANTIT? OR SU- MMAR? OR DATACOUNT?
S25	110523	SUM? ? OR ACCUMULAT? OR CUMULAT? OR (ADD? ? OR ADDED OR AD- DING)()UP OR CALCULAT? OR COMPUTE OR COMPUTED
S26	33000	COMPUTING OR SUMMAT? OR TALLY? OR ACCOUNTING? OR COMPUTATI- ON?
S27	102055	AMASS? OR TOTTED OR COMPIL? OR AMOUNT? OR TALLY?
S28	75221	SCORE? OR SCORING? OR GRADE? OR GRADING OR RATE? OR RATING?
S29	78639	PREDICT? OR ANTICIPAT? OR FORETELL? OR FORETOLD? OR FUTURE? OR RECOGNI? OR INFER? OR DEDUCE? OR DEDUCTION? OR DEDUCING?
S30	3260	NEURAL()(NET OR NETWORK?) OR (MACHINE? OR COMPUTER?)()LEAR- N? OR ARTIFICIAL?()INTELLIGENC? OR FUZZY()(LOGIC? OR INFERENC? OR THEOR?)
S31	20189	FORESHADOW? OR PRESAG? OR FORESEE? OR FORESAW? OR PROGNOST- IC? OR DIVINAT? OR DIVINING? OR ESTIMAT? OR DISAMBIGUAT?
S32	43105	AUGUR? OR FORECAST? OR PORTEND? OR PROPHES? OR GUESS? OR A- SSUM? OR PRESUM? OR CONJECTUR? OR INTUIT? OR DIAGNOS?
S33	236487	IC=G06F?
S34	207820	MC=T01?

```
S35     51399    S12 AND S7 AND S9:S10
S36     17756    S35 AND S17:S21 AND S22:S27
S37      2447    S36 AND S28
S38      4521    S36 AND S29:S32
S39       810    S37 AND S38
S40       428    S39 AND S33:S34
S41       810    S39:S40
S42       371    S41 AND (S7 OR S28)(5N)(S1:S6 OR S9:S10)
S43       588    S41 AND S13:S16
S44       563    S41 AND (S22:S27 OR S28 OR S7)(5N)(S17:S21 OR S9:S10)
S45       443    S43 AND (S42 OR S44)
S46       142    S45 AND S28(5N)(S7 OR S9:S10)
S47        13    S45 AND S29:S32(5N)S7(5N)S1:S6(5N)S9:S10
S48        69    S41 AND S29:S32(10N)S7 AND S1:S6(5N)(S7 OR S9:S10)
S49       225    S42 AND S43 AND S44
S50        91    S46 AND S33:S34
S51       225    S49 AND S28 AND S29:S32 AND S17:S21 AND S22:S27
S52       119    S46 AND (S49 OR S51)
S53       185    S47 OR S48 OR S50 OR S52
S54       139    S53 AND AC=US/PR
S55       128    S54 AND AY=(1970:2003)/PR
S56       115    S54 NOT AY=(2004:2006)/PR
S57        46    S53 NOT S54
S58        35    S57 AND PY=1970:2003
S59        16    S57 NOT PY=2004:2006
S60       164    S55:S56 OR S58:S59
S61       164    IDPAT (sorted in duplicate/non-duplicate order)
File 347:JAPIO Dec 1976-2005/Dec(Updated 060404)
         (c) 2006 JPO & JAPIO
File 350:Derwent WPIX 1963-2006/UD=200651
         (c) 2006 The Thomson Corporation
```

0014189149 - Drawing available
WPI ACC NO: 2004-374561/
XRAM Acc No: C2004-140848
XRPX Acc No: N2004-298007
Designing material that most closely matches desired set of properties ,
e.g. engineering thermoplastic material, comprises obtaining input
parameter **and** retrieving **actual** property **values for existing runs from**
global data repository
Patent Assignee: AMLADI V (AMLA-I); DOGANAKSOY N (DOGA-I); GARDNER M M
   (GARD-I); GENERAL ELECTRIC CO (GENE); MISHRA S (MISH-I); REDDY D D
   (REDD-I); SAINI P (SAIN-I)
Inventor: AMLADI V; DOGANAKSOY N; GARDNER M M; MISHRA S; REDDY D D; SAINI P
Patent Family (3 patents, 33 countries)
Patent   Application
Number   Kind   Date   Number   Kind   Date   Update
US 20040083083   A1   20040429 US 2002281658   A 20021028 200435   B
EP 1416403   A2   20040506 EP 2003256822   A 20031028 200435   E
JP 2004158008   A   20040603 JP 2003366753   A 20031028 200436   E

Priority Applications (no., kind, date): US 2002281658 A 20021028
Patent Details
Number   Kind Lan   Pg Dwg Filing Notes
US 20040083083   A1   EN   17   6
EP 1416403   A2   EN
Regional Designated States,Original: AL AT BE BG CH CY CZ DE DK EE ES FI
    FR GB GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR
JP 2004158008   A   JA   27

Designing material that most closely matches desired set of properties ,
e.g. engineering thermoplastic material, comprises obtaining input
parameter **and** retrieving **actual** property **values for existing runs from**
global data repository

Original Titles:
...Systems and methods for designing a new material that best matches a
desired set of **properties**
. . .

...SYSTEM AND METHOD FOR DESIGNING NEW MATERIAL BEST MATCHING DESIRED SET
OF **CHARACTERISTIC**
. . .
...Systems and methods for designing a new material that best matches an
desired set of **properties**

   Alerting Abstract ...NOVELTY - Designing a material that most closely
matches a desired set of **properties** comprises obtaining input **parameter**
(s) from a user; **retrieving** actual **property** values for preliminary
matching existing experimental run(s) from a global data repository;
determining how well each run matches a desired set of **property** values;
and outputting the **results** to the user....for a system for designing a
material that most closely matches a desired set of **properties** comprising
a mechanism for obtaining input **parameter** (s) from a user; a mechanism for
 retrieving actual **property** values for preliminary matching existing

experimental run(s) from a global data repository; a material **selection** algorithm operable for determining how well each preliminary matching existing experimental run matches a desired set of **property** values; and a mechanism for outputting the **results** to the user...

...USE - For formulating an experimental **grade** engineering thermoplastic material, a developmental **grade** engineering thermoplastic material or a commercial **grade** engineering thermoplastic material (claimed...

...identifies which existing experimental run or newly created material best matches a desired set of **properties** so that product development time can be minimized...

...DESCRIPTION OF DRAWINGS - The figure is a flowchart showing the material **properties** **retrieval** and overall match **score** **calculations** that are performed in the invention.

Technology Focus
INSTRUMENTATION AND TESTING - Preferred Method: The determining step comprises **scoring** each **property** value of each run to create a **scored** **property** value; and **calculating** an overall match **score** for each preliminary matching existing experimental run. **Calculating** an overall match **score** comprises **weighting** each **scored** **property** value by taking a **weight** value for each **property** into account to create a **weighted** **scored** **property** value; multiplying each **weighted** **scored** **property** value together; and raising the multiplied **quantity** to 1/(**sum** of all the **priorities**). The preliminary matching existing experimental runs are **sorted** by their respective overall match **scores** prior to outputting the **results** to the user. The runs are **sorted** in descending order based on their respective overall match **scores** . At least one new material that may more closely match the desired set of **properties** than any existing experimental run is **predicted** . Each **property** value of each new material is **scored** to create a **scored** **property** value. An overall match **score** for each new material is **calculated** . The **predicting** step comprises applying a transfer function to **predict** the new material that may more closely match the desired set of **properties** than any existing experimental run. If at least one input **parameter** obtained from the user is maximize the **property** and if the actual **property** value is less than .a minimum acceptable **property** value, then the **scored** **property** value is 0. If at least one input **parameter** obtained from the user is maximize the **property** value and if the actual **property** value is greater than a maximum acceptable **property** value, then the **scored** **property** value is 1. If at least one input **parameter** obtained from the user is maximize the **property** value and if the actual **property** value is not less than a minimum acceptable value and not greater than a maximum acceptable **property** value, then the **scored** **property** value may be **calculated** using the desirability function [(APV-MIN)/(MAX-MIN)] raised to the x, wherein APV is actual **property** value, MAX is user-specified maximum acceptable **property** value, MIN is user-specified minimum acceptable **property** value, and x is the **weight** value. If at least one input **parameter** obtained from the user is minimize the **property** value and if the actual **property** value is greater than a maximum acceptable **property** value, then the **scored** **property** value is 0. If at least one input **parameter** obtained from the user is minimize the **property** value, and if the actual **property** value is less than a minimum acceptable **property** value, then the **scored** **property** value is 1. If at least one input **parameter** obtained from the user is minimize the **property** value and if

the actual **property** value is not greater than a maximum acceptable
property value and not less than a minimum acceptable **property** value,
then the **scored** **property** value may be **calculated** using the
desirability function [(MAX-APV)/(MAX-MIN)] raised to the x. If at least
input **parameter** obtained from the user is **hit** a target point value for
the **property** value and if APV is greater than of equal to DPV and APV is
less than or equal to MAX, then the **scored** **property** value may be
calculated using the desirability function [(MAX-APV)/(MAX-DPV)] raised to
the x where DPV is user-specified desired **property** value. If at least one
input **parameter** obtained from the user is **hit** a target point value for
the **property** value and if the actual **property** value is greater than a
maximum acceptable **property** value, then the **scored** **property** value is
0. If at least one input **parameter** obtained from the user is **hit** a
target point value for the **property** value and if APV is less than or
equal to DPV and greater than or equal to MIN, then the **scored** **property**
value may be **calculated** using the desirability function
[(APV-MIN)/(DPV-MIN)] raised to the x. If at least one input **parameter**
obtained from the user is **hit** a target point value for the **property**
value and if the actual **property** value is less than a minimum acceptable
property value, then the **scored** **property** value is 0. If at least one
input **parameter** obtained from the user is keep the **property** value
within a given range of acceptable **property** values, and if MIN<=APV<=MAX,
then the **scored** **property** value is 1. If at least one input **parameter**
obtained from the user is to keep the **property** value within a given range
of acceptable **property** values, and if APV is greater than MAX or APV is
less than MIN, then the **scored** **property** value is 0. If a high **priority**
 exists for a **property** , a **priority** value of 5 is assigned to that
property . If a medium **priority** exists for a **property** . a **priority**
value of 3 is assigned to that **property** . If a low **priority** exists for a
 property , a **priority** value of 1 is assigned to that **property** . The
overall match **score** is **calculated** using the formula (I). Equation (I),
page 9 claim 27 Preferred **Parameters** ; The input **parameter** comprises a
specific raw material to **search** for, a design space to retain for
advanced **searching** , a design space to retain for **scoring** , a **property**
to be **searched** , units for each **property** to be **searched** , acceptable
property values for each **property** to be **searched** , a goal for each
property to be **searched** , or a **priority** value for each **property** to be
 searched . The goal for each **property** value to be **searched** comprises
maximize the **property** value, minimize the **property** value, **hit** a
target point value for the **property** value, or keep the **property** value
within a given range of acceptable **property** values. The **priority** value
for each **property** to be **searched** comprises high, medium or low...

Title Terms.../Index Terms/Additional Words: **PROPERTIES** ; ...

... **PARAMETER** ; ...

... **RETRIEVAL** ;

Class Codes
International Classification (Main): **G06F-017/50** ...

... **G06F-019/00**
Manual Codes (EPI/S-X): **T01-J**

Original Publication Data by Authority

Original Abstracts:
...identifying which existing experimental run, or newly-created material, best matches a desired set of **properties** are described so that product development time can be minimized. Users may input the **properties** they desire in a material, the acceptable values of those **properties** , the goals for each **property** , and a **priority** value for each **property** . Preliminary matching existing experimental runs may be **retrieved** from an experimental run **database** . One of four desirability functions may then be utilized to **calculate** a **scored** **property** value for each **property** of each existing experimental run. The **scored** **property** value may then be **weighted** to account for the **priority** value assigned to each **property** . The **results** may then be **sorted** in descending order based on their overall match **scores** , and output to the user so the best matching existing experimental run(s) is readily identifiable by the user. Additionally, new materials may be **predicted** , **scored** , **weighted** and **sorted** so that a better match of the desired **properties** may be created . . .

...identifying which existing experimental run, or newly-created material, best matches a desired set of **properties** are described so that product development time can be minimized. Users may input the **properties** they desire in a material, the acceptable values of those **properties** , the goals for each **property** , and a **priority** value for each **property** . Preliminary matching existing experimental runs may be **retrieved** from an experimental run **database** . One of four desirability functions may then be utilized to **calculate** a **scored** **property** value for each **property** of each existing experimental run. The **scored** **property** value may then be **weighted** to account for the **priority** value assigned to each **property** . The **results** may then be **sorted** in descending order based on their overall match **scores** , and output to the user so the best matching existing experimental run(s) is readily identifiable by the user. Additionally, new materials may be **predicted** , **scored** , **weighted** and **sorted** so that a better match of the desired **properties** may be created.
Claims:
A method for designing a material that most closely matches a desired set of **properties** , the method comprising:obtaining at least one input **parameter** from a user; **retrieving** actual **property** values for at least one preliminary matching existing experimental run from a global data repository;determining how well each preliminary matching existing experimental run matches a desired set of **property** values; andoutputting **the** results to the user...

...is: b 1 /b . A method for designing a material that most closely matches a desired set **of** properties, the method comprising:obtaining at least one **input** parameter from a **user** ;retrieving **actual** property values for at least one preliminary matching existing experimental run from a global data repository;determining how well each preliminary matching existing experimental run matches a desired set **of** property values; and **outputting** the results to the user.

61/3,K/12   (Item 12 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 The Thomson Corporation. All rts. reserv.

0014638615 - Drawing available
WPI ACC NO: 2004-820615/
XRPX Acc No: N2004-647857
 Estimation of probability of future **event for intellectual** property
assets, involves constructing model **or algorithm using metrics**
identifying/quantifying characteristics **of intellectual** property **assets**
for which event has/has not occurred
Patent Assignee: BARNEY J A (BARN-I)
Inventor: BARNEY J A
Patent Family (1 patents, 1 countries)
Patent   Application
Number   Kind   Date   Number   Kind   Date   Update
US 20040220842 A1   20041104 US 2003425554   A   20030429 200481 B

Priority Applications (no., kind, date): US 2003425554 A 20030429

Patent Details
Number   Kind Lan Pg Dwg Filing Notes
US 20040220842 A1   EN   29   12

 Estimation **of** probability **of** future **event for intellectual** property
assets, involves constructing model **or algorithm using metrics**
identifying/quantifying characteristics **of intellectual** property **assets**
for which event has/has not occurred

Original Titles:
Method and system for **rating** patents and other intangible assets

 Alerting Abstract ...NOVELTY - A **predictive** **model** or algorithm is
constructed based on prestored series of data comprising **selected** metrics
identifying/quantifying certain **selected** **characteristics** of
intellectual **property** assets for which the event has/has not occurred, to
generate an output **score** or **estimated** **probability** . The data
comprising **selected** metrics **related** to assets of interest are added to
algorithm, to **estimate** **probability** of **future** event....event
probability **report** ; automated method for enabling a user to access and
operate a predetermined **predictive** computer **model** or algorithm to
score or **rate** patents; method for **estimating** or **rating** the
probability of a **future** event relative to a patent or group of patents
 . . .

 ...USE - For **estimating** the **probability** of a **future** event occurring
relative to a particular identified intellectual **property** asset or group
of intellectual **property** assets of interest, patent or group of patents,
for use by patent valuation experts, investment advisors, economists and
others to help guide **future** patent investment decisions, licensing
programs, patent appraisals, tax valuations, transfer pricing, economic
forecasting and planning, mediation and/or settlement of patent litigation
lawsuits...

 ...ADVANTAGE - Eliminates the need for collecting comparative market data
of existing patent portfolios or **calculating** **future** hypothetical income
streams or royalty **rates** , thereby enabling accurate statistical

valuations, **ratings** or **rankings** .
...

...DESCRIPTION OF DRAWINGS - The figure shows a flowchart explaining the
process for **estimating** the **probability** of a **future** event occurring
relative to intellectual **property** assets.

Title Terms/Index Terms/Additional Words: **ESTIMATE** ; ...

... **PROBABILITY** ; ...

... **FUTURE** ; ...
... **PROPERTIES** ; ...

... **MODEL** ; ...

... **CHARACTERISTIC** ;

Class Codes
International Classification (Main): **G06F-017/60**
 (Additional/Secondary): **G06F-101/14** ...

... **G06F-015/00** ...

... **G06F-017/18**
Manual Codes (EPI/S-X): **T01-N01A2F** ...

... **T01-S03**

Original Publication Data by Authority

Original Abstracts:
 A statistical patent **rating** method and system is provided for
independently assessing the relative breadth ("B"), defensibility ("D") and
commercial **relevance** ("R") of individual patent assets and other
intangible intellectual **property** assets. The invention provides new and
valuable information that can be used by patent valuation experts,
investment advisors, economists and others to help guide **future** patent
investment decisions, licensing programs, patent appraisals, tax
valuations, transfer pricing, economic **forecasting** and planning, and even
mediation and/or settlement of patent litigation lawsuits. In one
embodiment the invention provides a statistically-based patent **rating**
method and system whereby relative **ratings** or **rankings** are generated
using a **database** of patent information by identifying and comparing
various **characteristics** of each individual patent to a statistically
determined distribution of the same **characteristics** within a given patent
population. For example, a first population of patents having a known...

...e.g. unsuccessfully litigated patents). Based on a statistical
comparison of the two populations, certain **characteristics** are identified
as being more prevalent or more pronounced in one population group or the
other to a statistically **significant** degree. Multiple such statistical
comparisons are used to construct and optimize a computer **model** or
computer algorithm that can then be used to **predict** and/or provide
statistically-accurate **probabilities** of a desired value or quality being
present or a **future** event occurring, given the identified

characteristics of an individual patent or group of patents.
Claims:

What is claimed is: b 1 /b . A method for **estimating** the **probability**
of a **future** event occurring relative to a particular identified
intellectual **property** asset or group of intellectual **property** assets of
interest, comprising: storing a first series of data comprising **selected**
metrics identifying and/or quantifying certain **selected** **characteristics**
of a first population of intellectual **property** assets for which the event
has occurred; storing a second series of data comprising **selected** metrics
identifying and/or quantifying said **selected** **characteristics** of a
second population of intellectual **property** assets for which.the event has
not occurred or for which it is undetermined whether the event has
occurred; constructing a **predictive** computer **model** or algorithm based
on said stored first and second series of data, said algorithm being
operable to **retrieve** said first and second series of stored data and to
perform certain mathematical or statistical **calculations** thereon to
generate an output **score** or **estimated** **probability** that is generally
predictive of the event having either occurred or not occurred relative to
each intellectual **property** asset in said first or second populations of
intellectual **property** assets; and providing as input to said algorithm a
third series of data comprising **selected** metrics identifying and/or
quantifying certain **selected** **characteristics** of said particular
identified intellectual **property** asset or group of intellectual **property**
assets of interest and operating said computer **model** to **calculate** a
relative **ranking** or **estimated** **probability** of the event occurring in
the **future** relative to said identified intellectual **property** asset or
group of intellectual **property** assets of interest.

0014020988 - Drawing available
WPI ACC NO: 2004-202693/
Related WPI Acc No: 2002-643052
XRPX Acc No: N2004-161183
Desired items e.g. document recommendations list generating method for
data   mining **purposes e.g. detecting user community, involves returning**
recommendation list of desired items that are ranked **based on**
probability of relevance
Patent Assignee: HOFMANN T (HOFM-I); PUZICHA J C (PUZI-I)
Inventor: HOFMANN T; PUZICHA J C
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
US 20040034652	A1	20040219	US 2000220926	P	20000726	200419	B
			US 2001915755	A	20010726		
			US 2003639024	A	20030811		

Priority Applications (no., kind, date): US 2001915755 A 20010726; US
   2000220926 P 20000726; US 2003639024 A 20030811

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 20040034652	A1	EN	26	15	Related to Provisional US 2000220926
					Continuation of application US
2001915755					

Original Titles:
System and method for personalized **search** , information filtering, and for
generating recommendations utilizing statistical latent class **models**

Alerting Abstract ...NOVELTY - The method involves receiving actual user
profiles (111) a user **query** and a request to generate a recommendation
list containing items that are **ranked** by their likelihood of being the
desired items into a recommendation system. A **probability** of **relevance**
for each item in data utilizing received **models** and data is **computed** .
The list is returned so that each list has a **ranked** list of desired items
based on the **probability** . DESCRIPTION - An INDEPENDENT CLAIM is also
included for a personalized **search** engine system for creating a
recommendation list of desired items for a user...

...USE - Used for generating recommendations list of desired items e.g.
product, and **document** for **data   mining** purposes e.g. identifying user
communities...

...ADVANTAGE - The method returns the recommendation list of desired items
that are **ranked** based on .**probability** of **relevance** and thus the method
effectively **predicts** the sufficient **number** of users who share all
interests of desired items...

...DESCRIPTION OF DRAWINGS - The drawing shows a schematic representation illustrating the information aggregation and **integration** of a personalized **search** engine system for creating a recommendation list of desired items for a user...

Title Terms.../Index Terms/Additional Words: **DOCUMENT** ; ...

... **RANK** ; ...

... **PROBABILITY** ; ...

... **RELEVANT**

Class Codes
International Classification (Main): **G06F-017/00**
Manual Codes (EPI/S-X): **T01-J05B2** ...

... **T01-N02A3C** ...

... **T01-N02B2A** ...

... **T01-N03A2** ...

... **T01-N03B2**

Original Publication Data by Authority

Original Abstracts:
...information and automated generation of user-specific recommendations. The system uses a statistical latent class **model** , also known as Probabilistic Latent Semantic Analysis, to **integrate** data including textual and other content descriptions of items to be **searched** , user profiles, demographic information, **query** logs of previous **searches** , and explicit user **ratings** of items. The disclosed system learns one or more statistical **models** based on available data. The learning may be reiterated once additional data is available. The statistical **model** , once learned, is utilized in various ways: to make **predictions** about item **relevance** and user **preferences** on un- **rated** items, to generate recommendation lists of items, to generate personalized **search** result lists, to disambiguate a users **query** , to refine a **search** , to **compute similarities** between items or users, and for **data mining** purposes such as identifying user communities.
Claims:
...set of data including items, content descriptors for the items, user profiles about transactions, prior **searches** , user **ratings** or user actions, to generate a recommendation list of desired items, comprising the following steps:receiving into the recommendation system a set of statistical latent class **models** along with appropriate **model combination weights** , each possible **combination** of items, content descriptors, users, **object** or user attributes, and **preferences** being assigned a **probability** indicating the likelihood of that particular **combination** ;receiving into the recommendation system at least one of: an actual user profile;a user **query** ; and a request to generate at least one recommendation list, items in the recommendation list being **ranked** by their likelihood of being the desired items; **computing** a **probability** of

relevance for each item in the set of data utilizing the received set of **models** and data;returning at least one recommendation list, each recommendation list having a variable length and consisting of a **ranked** list of desired items, the items being **ranking** based on the **computed probability** of **relevance**.